

Bechtel

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Memorandum

To: Michael Bellot, EPA Region IX
Thru: Sandra Carroll
Subject: Completed Work
Date: March 18, 1994
cc: Catherine C. Walton, BEI ARCS

Attached is the following completed document:

PA _____ SI _____ Other _____ Site Inspection Prioritization

Site Name: Dos Palos Arpt. (a.k.a. Spain-Air Pesticide Applicators)EPA ID: CAD 980736953 (20-15)City, County, State: Dos Palos, Fresno County, Calif.**For EPA Use Only**Latitude: 36° 57' 50.0" N ✓ Longitude: 120° 37' 42.5" W ✓CERCLIS Changes: Change Folsom Ave. off Merrill Ave. to 15723 N. Folsom Rd. and the county name from Merced to FresnoEPA Further Action Determination: SIP complete (NFA) SIP-SP=C361Lead Agency: FSign-Off Date: 3/29/94Initials of Work Assignment Manager: 1/28Document Screening Coordinator: 3/31/94Chief, Site Evaluation and Grants Section: 3/24**Bechtel Environmental, Inc.**

Bechtel

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FINAL EPA File Copy

Site Inspection Prioritization

Site: Dos Palos Arpt.
(a.k.a. Spain-Air Pesticide Applicators)
15723 North Folsom Rd.
Dos Palos, CA 93620

Site EPA ID Number: CAD 980736953

Work Assignment Number: 60-32-9JZZ, ARCSWEST Program

Submitted to: Michael Bellot
Site Assessment Manager
EPA Region IX

Thru: Sandra Carroll

Date: March 18, 1994

Prepared by: Subbu Mahadevan *SM*

Review and Concurrence: Catherine C. Walton *W*



Bechtel Environmental, Inc.

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked Bechtel Environmental, Inc. (BEI) to conduct a site inspection prioritization (SIP) of the Dos Palos Arpt. (Dos Palos Airport) site in Dos Palos, Fresno County, Calif., using the EPA's Hazard Ranking System (HRS) criteria. The HRS assesses the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This report summarizes the results of the SIP of the Dos Palos Airport site.

The Dos Palos Airport site is located at 15723 North Folsom Road in Dos Palos, Calif. The geographic coordinates of the site are 36° 57' 50.0" N latitude and 120° 37' 42.5" W longitude (Township 11 South, Range 12 East, Section 23, Mount Diablo Baseline and Meridian, Dos Palos, Calif., 7.5-minute quadrangle) (1). The location of the site is shown in Figure 1-1.

The Dos Palos Airport site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on October 1, 1979 (CAD 980736953) (2). A screening site inspection (SSI) was conducted on September 12, 1989 by Ecology and Environment, Inc. (2,3).

1.1 Apparent Problem

The apparent problems at the site are as follows:

- An aerial pesticide and fertilizer applicator has operated on site since 1940. Prior to 1984, rinsewater from washing planes and pesticide containers was directed to an unlined drainage trench on site. (3)
- Laboratory analyses of subsurface soil samples collected in June 1987 from the former trench area indicated the presence of hazardous substances, including s,s-s-tributylphosphorotrithioate (DEF), ethion, parathion, trithion, paraquat, dichlorodiphenyltrichloroethane (DDT), endosulfan II, and toxaphene (4).

2.0 SITE DESCRIPTION

The Dos Palos Airport site occupies 40 acres approximately 2 miles south of the city of Dos Palos, Calif. A runway divides the site into two halves. The portion east of the runway includes an office, warehouses for storage of pesticides and aircraft parts, two hangers, and a rinsewater containment station. The portion west of the runway includes a fuel dispensing facility and a trailer that is a residence for two people. The site is fenced only on the northern boundary. An aerial pesticide and fertilizer applicator has operated on site since 1940. Bill Spain purchased the site in 1962 and has operated Spain-Air Pesticide Applicators on site since that time. Currently, onsite operations consist of loading planes with pesticide solution, and washing and rinsing planes, equipment, and pesticide containers. Washing and rinsing operations are conducted on a concrete pad in the rinsewater containment station. Rinsewater flows through a drain in the concrete pad into an underground steel-lined sump. Rinsewater from the sump is pumped through a

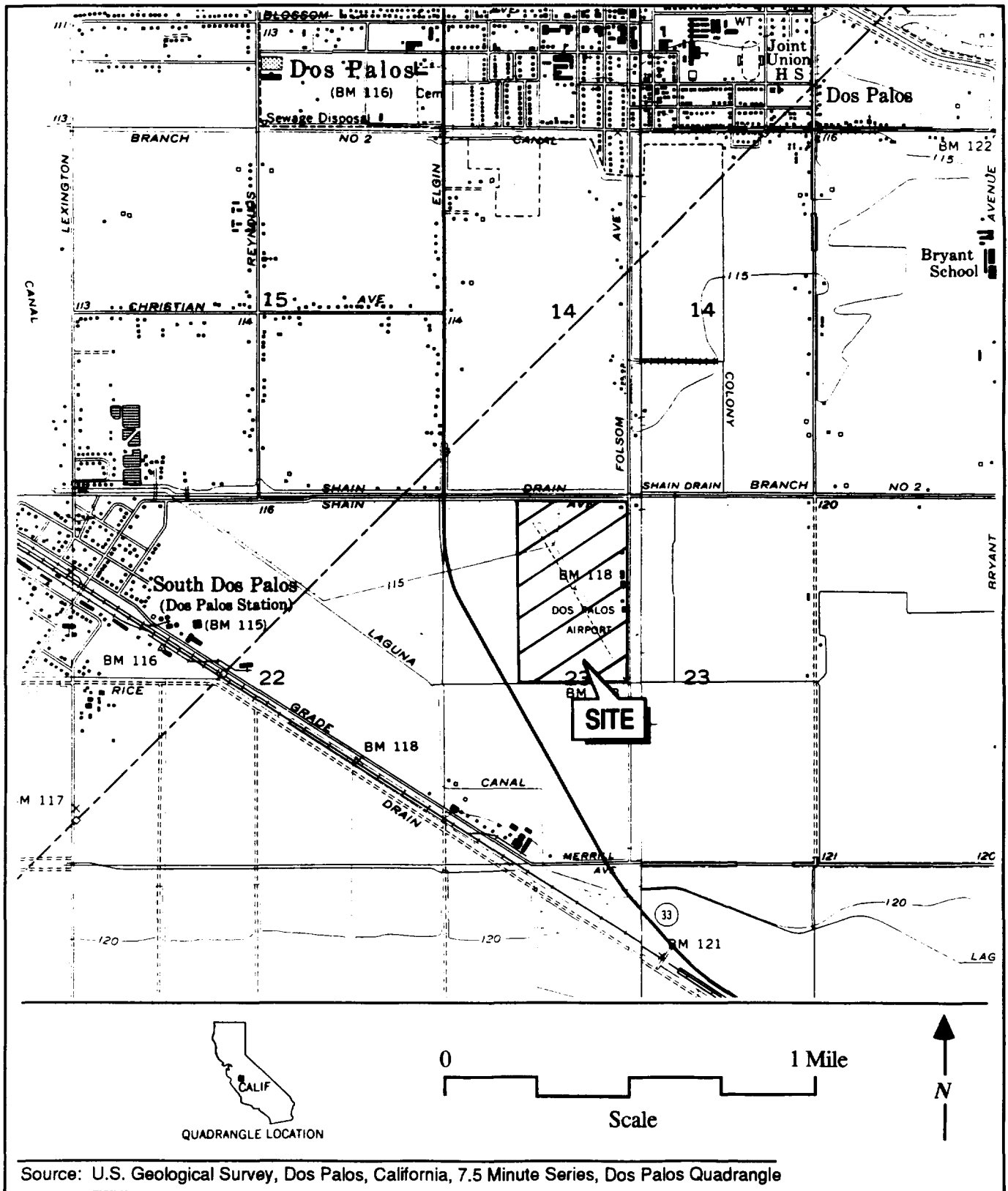


Figure 1-1 Site Location

carbon-filtration system and into three aboveground poly-plastic tanks. The rinsewater from these storage tanks is treated and reused for pesticide application. (5)

Between 1940 and 1962, rinsewater was disposed of into an unlined trench in the northern portion of the site; available information, however, does not indicate the quantity. Between 1962 and 1982, approximately 600 gallons to 700 gallons of rinsewater, potentially containing pesticides, was disposed of into the unlined trench each month. The rinsewater was allowed to either percolate into the soil or evaporate. The trench was backfilled with soil in 1984 and is no longer in use. (3) Currently, up to 1,500 gallons of treated rinsewater is stored on site before being reused for pesticide application. Approximately 150 gallons of waste oil is generated and stored on site before being hauled off site by a licensed hazardous waste hauler every three months. The fuel dispensing facility consists of two 3,000-gallon aboveground storage tanks containing diesel fuel and two 10,000-gallon aboveground storage tanks containing aviation fuel. (5)

3.0 SITE INSPECTION PRIORITIZATION CONSIDERATIONS

In June 1987, The Twining Laboratories, Inc., contractors to the site owner, drilled three soil borings to depths of between 5 feet below ground surface (bgs) and 10 bgs in the former trench area. Soil samples from each boring were collected at a depth of 4 feet bgs and analyzed for organophosphate pesticides using EPA Method 8140, phenoxyacid herbicides using EPA Method 8150, and organochlorine pesticides using EPA Method 8080. Laboratory analyses of soil samples indicated the presence of pesticides, including up to 180 milligrams per kilogram (mg/kg) of DEF, 61 mg/kg of ethion, 7.4 mg/kg of parathion, 6.1 mg/kg of trithion, 4.0 mg/kg of paraquat, 870 mg/kg of DDT, 8.9 mg/kg of endosulfan II, and 1,300 mg/kg of toxaphene. A groundwater sample was collected during the drilling of the monitoring wells and analyzed for organophosphate pesticides using EPA Method 614, phenoxyacid herbicides using EPA Method 615, and organochlorine pesticides using EPA Method 608. Laboratory analyses of the groundwater sample indicated the presence of pesticides, including up to 270 micrograms per liter ($\mu\text{g/l}$) of DEF, 24 $\mu\text{g/l}$ of ethion, 160 $\mu\text{g/l}$ of o,p-DDT, 22 $\mu\text{g/l}$ of endosulfan II, and 690 $\mu\text{g/l}$ of toxaphene. (4)

In March 1992, as a result of a leak in a vent line of the fuel dispensing facility, diesel fuel spilled onto onsite soils. Soils in the vicinity of the fuel dispensing facility were contaminated with total petroleum hydrocarbons (TPH). (6) Although TPH compounds such as benzene, toluene, ethylbenzene, and xylenes are considered to be hazardous substances under CERCLA, as constituents of unaltered petroleum products, they are excluded from consideration under CERCLA Section 101 (14 and 33) (a). As a result, TPH constituents found in onsite soils and groundwater beneath the site are excluded from consideration in this SIP.

In April 1993, The Twining Laboratories, Inc. installed one onsite monitoring well (MW-1) and two offsite monitoring wells (MW-2 and MW-3) to further characterize the extent of soil and groundwater contamination at the site. During the drilling of the monitoring wells, soil samples were collected at depths of 2.5 feet bgs to 3.0 feet bgs and were analyzed for phenoxyacid herbicides using EPA Method 8150, organochlorine pesticides using EPA Method 8080, and organophosphate pesticides using EPA Method 8140. Laboratory analyses of soil samples collected from boring MW-1 indicated the presence of pesticides, including up to 0.6 mg/kg of endosulfan I, 7.2 mg/kg of endosulfan II, and 6.8 mg/kg of ethion. Groundwater samples collected from the three monitoring wells were analyzed for phenoxyacid herbicides using EPA Method 615, organochlorine pesticides using EPA Method 608, and organophosphate pesticides using EPA Method 614. Additionally, laboratory analyses of groundwater samples collected on site from MW-1 indicated the presence of pesticides, including up to 33 $\mu\text{g/l}$ of dinoseb and 9.1 $\mu\text{g/l}$ of 4-(2,4-dichlorophenoxy)butyric acid. (6)

The California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB), Central Valley Region, has been involved with the site since 1979. In April 1985, the RWQCB requested a workplan from the site owners to determine soil and groundwater contamination in the vicinity of the former drainage trench. The workplan was submitted by the site owners in August 1985 and approved by the RWQCB in March 1987. In accordance with the workplan, a soil sampling event was conducted in the vicinity of the former drainage trench in June 1987. In July 1991, the RWQCB requested a workplan from the site owners to further characterize contamination in groundwater beneath the site. In May 1992, the RWQCB requested another workplan to characterize the extent of soil and groundwater contamination caused by a diesel fuel spill on site. Both workplans were prepared and submitted by The Twining Laboratories, Inc., and were approved by the RWQCB in January 1993. In April 1993, The Twining Laboratories, Inc. conducted a site investigation that addressed both the pesticide and diesel contamination in onsite soil and groundwater at the site. The RWQCB is in the process of reviewing the report documenting the April 1993 sampling event. (5)

4.0 PERTINENT HAZARD RANKING SYSTEM FACTORS

The following pertinent Hazard Ranking System factors are associated with the site:

- Groundwater within 4 miles of the site is not used for drinking purposes. There are no municipal drinking water wells within 4 miles of the site.
- There are no drinking water intakes within 15 miles downstream of the site.
- There are approximately 1,200 residents within one mile of the site. There are no schools or daycare centers on site.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Site Name: Dos Palos Arpt. EPA ID#: CAD 980736953
 Alias Site Names: Spain-Air Pesticide Applicators
 City: Dos Palos County or Parish: Fresno State: CA
 Refer to Report Dated: 3/18/94 Report type: Site Inspection Prioritization
 Report developed by: Bechtel Environmental, Inc.

DECISION:

- ☒ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:
- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA) | <input type="checkbox"/> 1b. Site may qualify for further action, but is deferred to: | <input type="checkbox"/> RCRA
<input type="checkbox"/> NRC |
|--|---|---|
- ☐ 2. Further Assessment Needed Under CERCLA: 2a. (optional) Priority: ☐ Higher ☐ Lower
- | | | |
|---------------------------------------|--|---|
| 2b. Activity Type: | <input type="checkbox"/> PA
<input type="checkbox"/> SI | <input type="checkbox"/> ESI
<input type="checkbox"/> HRS evaluation |
| <input type="checkbox"/> Other: _____ | | |

DISCUSSION/RATIONALE: No further action is required for this site due to a lack of potential

Targets/MSL

Report Reviewed,
Approved, and Site
Decision Made by:

Michael E. Bell

Signature:

Michael E. Bell

Date:

3/18/94

APPENDIX A

REFERENCE LIST

Site: Dos Palos Arpt.

1. U.S. Geological Survey, Dos Palos Quadrangle, California, 7.5-Minute Series (topographic), Photorevised 1984.
2. U.S. Environmental Protection Agency, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), March 7, 1994.
3. Mitchell, Toner, Ecology and Environment, Inc., CERCLA Screening Site Inspection, Dos Palos Airport, August 29, 1989.
4. The Twining Laboratories, Inc., Preliminary Remedial Investigation, Spain-Air, Inc. Facility, August 31, 1989.
5. Mahadevan, Subbu, Bechtel Environmental, Inc., Site Reconnaissance Interview and Observations Report, February 10, 1994.
6. The Twining Laboratories, Inc., Report of Preliminary Site Assessment, Spain-Air, Inc. Facility, July 26, 1993.

APPENDIX B

CONTACT LOG

Site: Dos Palos Arpt.

EPA ID: CAD 980736953

Name	Affiliation	Phone	Date	Information
Michael Bellot	United States Environmental Protection Agency	(415) 744-2339	2/1/94	I told him that Dos Palos Airport and Spain-Air Applicators, Inc. are the same site. He requested that I prepare one report and make two copies, one for each of the site names.
Bill Spain	Spain-Air Pesticide Applicators	(209) 392-2120	2/1/94	I scheduled a site visit for February 10 at 1:00 p.m.
Jong Han	California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB), Central Valley Region	(209) 445-5116	2/1/94	The RWQCB has several files on the site. He has been the project manager for the site for a short time. He asked me to make an appointment to review the files.
Darrelle Fonseca	City of Dos Palos	(209) 392-2174	2/2/94	The City of Dos Palos and five nearby districts get their drinking water from the California aqueduct. Groundwater is not potable and is not used for drinking purposes. There are no municipal drinking water wells within 4 miles of the site.
John Isom	Merced County Public Works Department	(209) 826-0166	2/2/94	He is not aware of any drinking water wells within a 4-mile radius of the site. There are several domestic wells that draw water from depths between 50 and 100 feet below ground surface.
Bob Pfitzer	Central California Irrigation District	(209) 826-1421	2/3/94	See Contact Report.

CONTACT LOG (Cont'd)

Site: Dos Palos Arpt.

Name	Affiliation	Phone	Date	Information
Timothy Poole	Grasslands Water District	(209) 826-5188	2/3/94	The flow rate for the Agatha Canal is approximately 60 cubic feet per second.
Darrelle Fonseca	City of Dos Palos	(209) 392-2174	2/8/94	The site is not located in any floodplain category.
Brian Quelvog	California Department of Fish and Game	(209) 222-3761	2/8/94	He stated that the Department of Fisheries does not have information on fish catch data within 15 miles downstream of the site.
Tim Heyne	California Department of Fish and Game	(209) 222-3761	2/8/94	The surface water bodies within 2 miles of the site are mainly used for recreational fishing. The Laguna Canal, approximately 1.5 miles from the site, may be used for commercial fishing. Up to 100 pounds of commercial fish are caught from surface water bodies within 15 miles downstream of the site.

CONTACT REPORT

AGENCY/AFFILIATION: Central California Irrigation District		CODE:
DEPARTMENT:		
ADDRESS: P.O. Box 1231		CITY: Los Banos
COUNTY: Merced	STATE: CA	ZIP: 93635
CONTACT(S) Bob Pfitzer	TITLE Hydrotechnician	PHONE (209) 826-1421
BEI PERSON MAKING CONTACT: Subbu Mahadevan <i>SM JS</i>		DATE: 2/3/94
SUBJECT: Surface water bodies within 15 miles downstream of the site		
SITE NAME: Dos Palos Airport Spain-Air Pesticide Applicators		EPA ID: CAD 980736953 CAD 048659825

DISCUSSION:

The surface water bodies within 15 miles downstream of the site are Shain Drain Canal, Laguna Canal, Colony Branch 2 Canal, Colony Branch 3 Canal, Colony Branch 4 Canal, Colony Branch 5 Canal, and Agatha Canal. There are no drinking water intakes within 15 miles downstream of the site. Surface water flow is to the northwest. The maximum flow rates for the surface water bodies listed above are as follows:

<u>Surface water body</u>	<u>flow rate (cubic feet per second)</u>
Shain Drain Canal	2
Laguna Canal	20
Colony Branch 2	30
Colony Branch 3	70
Colony Branch 4	50
Colony Branch 5	25

The Central California Irrigation District also owns and operates two domestic wells: one between 2 and 3 miles from the site and the other between 3 and 4 miles from the site. Both these wells serve one residence consisting of three people each. The wells are screened at a depth of approximately 80 to 100 feet below ground surface. Mr Pfitzer asked me to call the Grasslands Water District for information on the flow rate for the Agatha Canal.

CONTACT CONCURRENCE: _____ DATE: _____

APPENDIX D

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Bechtel Environmental, Inc.
P.O. Box 193965
San Francisco, CA 94119-3965

OBSERVATIONS MADE BY: Subbu Mahadevan

DATE: February 10, 1994

FACILITY REPRESENTATIVE(S) and TITLE(S):

Bill Spain, Spain-Air Pesticide Applicators
Randy Spain, Spain-Air Pesticide Applicators
Harry Moore, The Twining Laboratories, Inc.
Michael Delmanowski, The Twining Laboratories, Inc.

SITE: Dos Palos Arpt. (a.k.a. Spain-Air Pesticide Applicators)

EPA ID: CAD 980736953

A site reconnaissance was conducted at the Dos Palos Arpt. (Dos Palos Airport) site on February 10, 1994. The weather was sunny and the temperature was approximately 60°F. The Bechtel Environmental, Inc. (BEI) representative, Subbu Mahadevan, conducted the site reconnaissance with Bill Spain, Randy Spain, Harry Moore, and Michael Delmanowski at 1:00 p.m. to gather information on the site location and size, site history, processes used, and any hazardous waste generated, treated, stored, or disposed of on site. The reconnaissance included a site tour during which photographs were taken.

The following information was obtained during the site reconnaissance:

The Dos Palos Airport site is approximately 2 miles south of the city of Dos Palos, Fresno County, Calif. The site is bordered on the north by Shain Avenue, on the south and west by open fields, and on the east by Folsom Avenue. The site has been occupied by an aerial and ground pesticide application business since 1940. Bill Spain purchased the site in 1962 and has operated Spain-Air Pesticide Applicators on site since that time.

The Dos Palos Airport site is approximately 40 acres in area. A runway divides the site into two halves. The portion east of the runway includes an office, warehouses for storage of pesticides and aircraft parts, two hangars, and a rinsewater containment station. The portion west of the runway includes a fuel dispensing facility and a trailer that is a residence for two people. The site is only fenced on the northern side.

Onsite operations consist of loading planes with pesticide solution, and rinsing and washing planes, equipment, and containers of pesticide solution. Prior to 1984, rinsewater from plane and container washings was directed into an unlined trench near the site's northern boundary. Currently, rinsing and washing operations are conducted on a concrete pad in the rinsewater containment station. After an aerial pesticide application, the planes are rinsed to remove pesticide solution that may have accumulated on their exteriors during operation. Rinsewater from aircraft

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT (Cont'd)

Site: Dos Palos Arpt.

washings flows into a drain in the corner of the concrete pad and into an underground steel-lined sump. The rinsewater is pumped from the sump through a filtered system and into three poly-plastic aboveground storage tanks. Rinsewater from these storage tanks is then reapplied to crops. Empty pesticide containers are triple rinsed on the concrete pad and stored in the warehouse before being hauled to the Merced County Landfill for disposal.

Up to 1,500 gallons of filtered rinsewater is stored on site before being reused for pesticide application. The fuel dispensing facility has two 3,000-gallon aboveground storage tanks containing diesel fuel and two 10,000-gallon aboveground storage tanks containing aviation fuel.

The California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB), Central Valley Region, has been involved with the site since 1979. In April 1985, the RWQCB requested a workplan from the site owners to determine soil and groundwater contamination in the vicinity of the former drainage trench. The workplan was submitted by the site owners in August 1985 and approved by the RWQCB in March 1987. In accordance with the workplan, a soil sampling event was conducted in the vicinity of the drainage trench in June 1987. In July 1991, the RWQCB requested a workplan from the site owners to further characterize groundwater contamination beneath the site due to pesticide contamination in onsite soils. In May 1992, the RWQCB requested another workplan to characterize the extent of soil and groundwater contamination on site due to a diesel fuel spill. Both workplans were submitted by Twining Laboratories, Inc. and approved by the RWQCB in January 1993. In April 1993, Twining Laboratories, Inc. conducted a site assessment that addressed both the pesticide and diesel contamination in onsite soil and groundwater at the site. The RWQCB is in the process of reviewing the documentation on the April 1993 sampling event.

TRANSMITTAL LIST for SITE INSPECTION PRIORITIZATION**Site: Dos Palos Arpt.**

dos
Bill Spain
Spain-Air Pesticide Applicators
15723 N. Folsom Rd.
Dos Palos, CA 93620

dos
Jong Han
California Environmental Protection Agency
Regional Water Quality Control Board, Central Valley Region
3614 East Ashlan Ave.
Fresno, CA 93726

clay
Harry Moore
The Twining Laboratories, Inc.
2527 Fresno St.
P.O. Box 1472
Fresno, CA 93716

4/1/94

CT

CAD980736953

Bechtel

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REFERENCES for

Site Inspection Prioritization

Site: Dos Palos Arpt.
(a.k.a. Spain-Air Pesticide Applicators)
15723 North Folsom Rd.
Dos Palos, CA 93620

Site EPA ID Number: CAD 980736953

Work Assignment Number: 60-32-9JZZ, ARCSWEST Program

Submitted to: Michael Bellot
Site Assessment Manager
EPA Region IX

Thru: Sandra Carroll

Date: March 18, 1994

Prepared by: Subbu Mahadevan *SM*

Review and Concurrence: Catherine C. Walton *CCW*



APPENDIX A

REFERENCE LIST

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1. U.S. Geological Survey, Dos Palos Quadrangle, California, 7.5-Minute Series (topographic), Photorevised 1984.
2. U.S. Environmental Protection Agency, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), March 7, 1994.
3. Mitchell, Toner, Ecology and Environment, Inc., CERCLA Screening Site Inspection, Dos Palos Airport, August 29, 1989.
4. The Twining Laboratories, Inc., Preliminary Remedial Investigation, Spain-Air, Inc. Facility, August 31, 1989.
5. Mahadevan, Subbu, Bechtel Environmental, Inc., Site Reconnaissance Interview and Observations Report, February 10, 1994.
6. The Twining Laboratories, Inc., Report of Preliminary Site Assessment, Spain-Air, Inc. Facility, July 26, 1993.

Information extracted from:

U.S. Geological Survey, Dos Palos Quadrangle, California, 7.5-Minute Series (topographic),
Photorevised 1984.

EPA REGION IX - CERCLIS SITES
LIST-8 REPORT FOR REGION IX
SORTED BY SITE NAME

EPA ID NO.	SITE NAME STREET CITY, COUNTY CODE AND NAME	STATE ZIP CONG DIST.	EVENT QUALIF	OP UN	EVENT TYPE	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD	N P L
CAD009174186	DORRIS LUMBER & MOULDING CO 2600 REDDING AVE SACRAMENTO 067 SACRAMENTO	CA 95820 CA-03	N	00	DS1 PA1		06/01/84 12/01/87	EPA (FUND) EPA (FUND)	N N
CAD980736953	DOS PALOS ARPT FOLSON AVE OFF MERRIL DOS PALOS 047 MERCED	CA 93620 CA-15	L H H	00	DS1 PA1 PA2 SI1		10/01/79 05/01/80 02/28/89 09/12/89	EPA (FUND) EPA (FUND) EPA (FUND) EPA (FUND)	N N N N
NVD980419543	DOUBLE EAGLE INC LOWER ROCHESTER OREANA STAR RTE LOVELOCK 027 PERSHING	NV 89419 NV-02	N	00	DS1 PA1	01/01/86	06/01/80 07/01/87	EPA (FUND) STATE (FUND)	N N
NVD98041662	DOUGLAS CO SAN LDF L SEC 18 T12N R21E 5 MI SE OF GARDNEVILLE 005 DOUGLAS	NV 89410 NV-02	N H	00	SI1 DS1 PA1		09/01/84 01/01/80 09/01/84	STATE (FUND) EPA (FUND) STATE (FUND)	N N N
CAD980736003	DOW CHEMICAL CO INGLEWOOD 5855 W CENTINELA INGLEWOOD 037 LOS ANGELES	CA 90301 CA-28	L N	00	DS1 PA1 PA2		11/01/79 12/01/86 01/18/89	EPA (FUND) EPA (FUND) EPA (FUND)	N N N
CAD076528678	DOW CHEMICAL CO PITTSBURG PLT END OF LOVERIDGE RD PITTSBURG 013 CONTRA COSTA	CA 94565 CA-07	N L	00	SI1 DS1 PA1		09/01/84 11/01/79 07/01/80	EPA (FUND) EPA (FUND) EPA (FUND)	N N N

REFERENCE 2

Information extracted from:

Mitchell, Toner, Ecology and Environment, Inc., CERCLA Screening Site Inspection, Dos Palos Airport, August 29, 1989.

(See CERCLA folder)

PRELIMINARY REMEDIAL INVESTIGATION

SPAIN-AIR, INC. FACILITY

DOS PALOS, CALIFORNIA

Prepared For:

**Spain-Air, Inc.
P.O. Box 217
Dos Palos, CA 93620**

August 31, 1989

The Twining Laboratories, Inc.

Fresno Modesto Merced

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The Twining Laboratories, Inc.

Fresno Modesto Visalia Bakersfield

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The Twining Laboratories, Inc.

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PRELIMINARY REMEDIAL INVESTIGATION

SPAIN-AIR, INC. FACILITY

DOS PALOS, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of a preliminary remedial investigation to assess the potential environmental effects of past disposal of rinsewater containing pesticides into an unlined earthen drainage ditch located on the Spain-Air, Inc. facility in Dos Palos, California. The ditch was backfilled in November of 1984, and presently is not in use.

This report was prepared to address the concerns of the Central Valley Regional Water Quality Board (CVRWQCB) as outlined in a letter and attached memorandum dated May 8, 1989. This investigation was authorized by Mr. Bill Spain of Spain-Air, Inc.

The contents of this report include background information regarding existing site features, regional geological and hydrological characteristics, site history, and nature of the problem. In addition, the purpose and scope of the investigation, a description of the investigative procedures used and the subsequent findings obtained are presented. Finally, we have provided an evaluation of our findings, and related conclusions and recommendations. The appendices of this report contain the logs of soil borings (Appendix A), copies of the chain-of-custody documentation (Appendix B), and report of laboratory analyses (Appendix C).

This investigation was performed by the Environmental Engineering Division of The Twining Laboratories, Inc. (Twining), located in Fresno, California.

2.0 BACKGROUND INFORMATION

The following subsections presents a brief description of the project site, the regional geological and hydrological characteristics, the site history, and a statement of the problem.

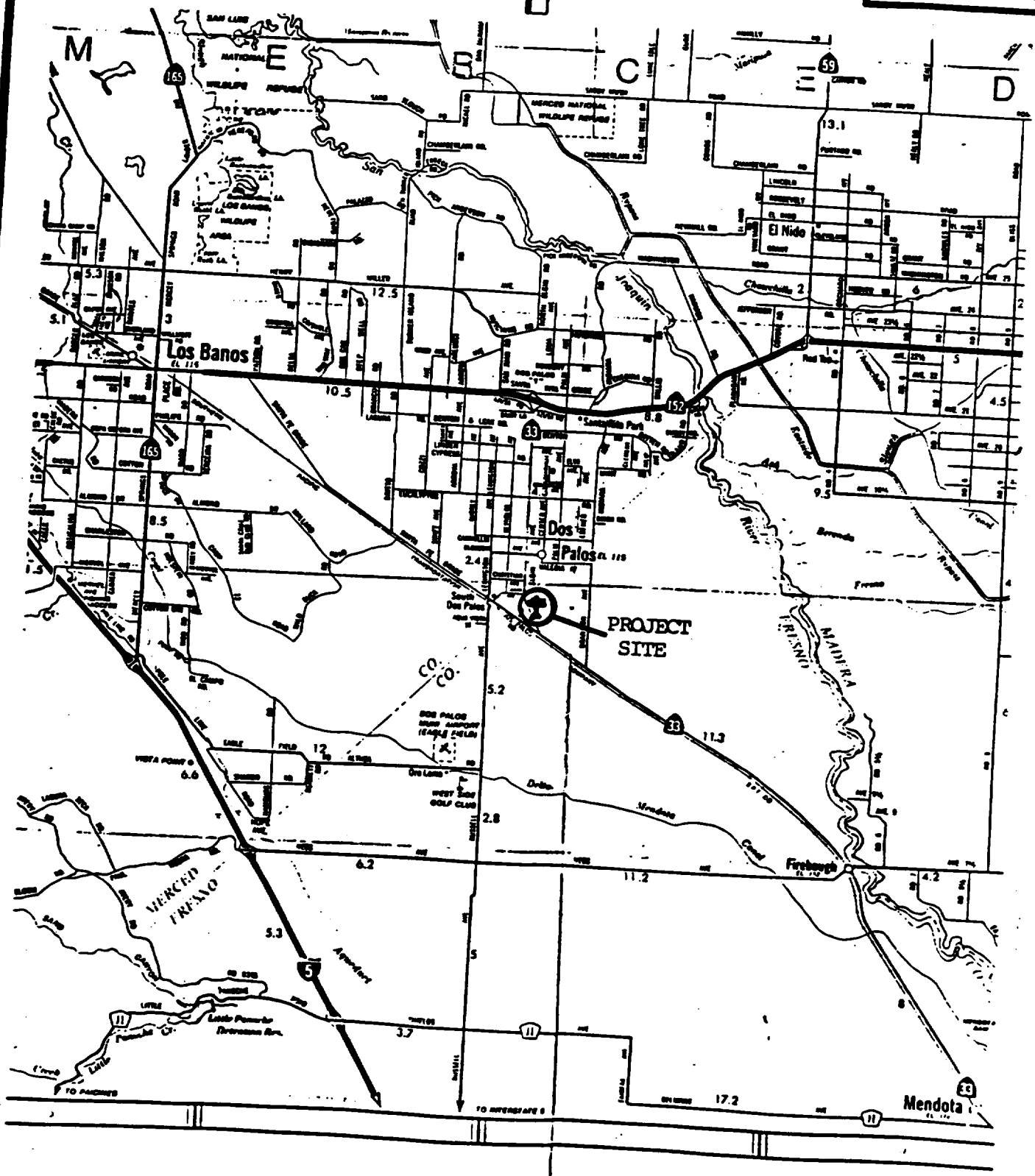
2.1 Site Description: The Spain-Air, Inc. facility, also referred to as the Dos Palos Airport, is located approximately two miles south of the City of Dos Palos at 15723 Folsom Avenue in the northwest quarter of Section 23 of Township 11 South, Range 12 East, Mount Diablo Baseline and Meridian in Fresno County, California. The elevation of the site is approximately 117 feet above mean sea level. A site location map is presented on Drawing No. 1.

The Spain-Air property is approximately 40 acres in size. This property is bound to the north by Shain Avenue, to the east by Folsom Avenue, to the south by Miller Avenue, and to the west by Elgin Avenue. The facility consists of offices, warehouses, hangers, a taxiway, a runway, miscellaneous structures, a containment facility, above ground fuel storage tanks, and a hazardous material storage area. Water supplies to the facility and surrounding residences are provided by the Dos Palos water

The Twining Laboratories, Inc.

NORTH

PROJECT No.
TL 685-043-00



SITE LOCATION MAP
SPAIN AIR, INC.
15723 FOLSOM AVENUE
DOS PALOS, CALIFORNIA

SCALE:
1 in=4 mi.

DATE: 8-24-85

DRAWN BY:
GWK

APPROVED BY:
GWK

DRAWING No.
1 OF 4



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district. A site plan showing the general features of the site is presented on Drawing No. 2.

The unlined earthen ditch was approximately 6 feet by 300 feet in plan, and 3 feet deep. This ditch was located in the northeast corner of the property, adjacent to Folsom Avenue. The ditch was taken out of service and backfilled in November of 1984.

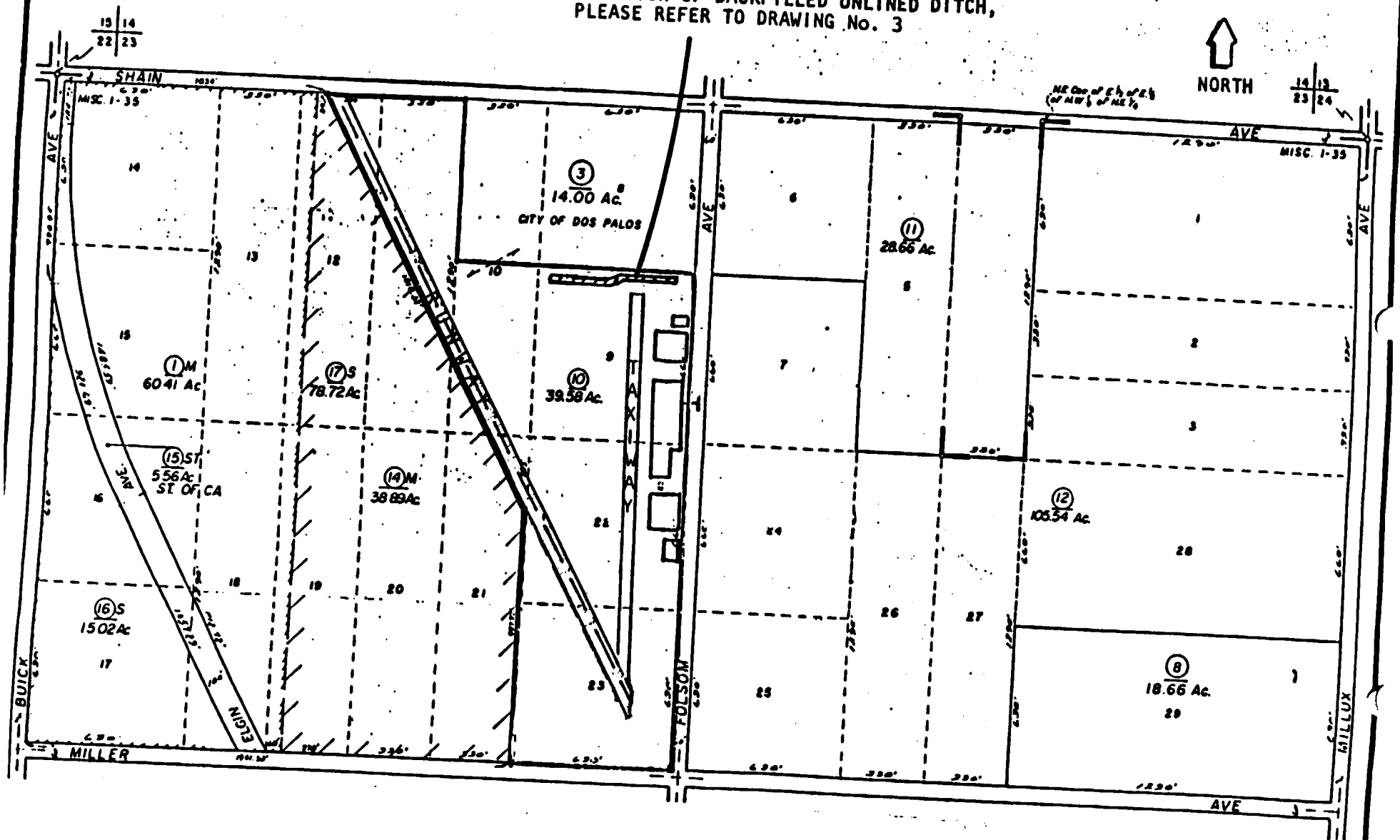
2.2 Regional Geological and Hydrological Characteristics:

The following subsections present the regional geological and hydrological characteristics.

2.2.1 Geology: Fresno County is centrally located in the San Joaquin Valley (valley) and is bordered on the east by Mesozoic granitic and metamorphic rocks of the Sierra Nevada Range, and on the west by Mesozoic and Cenozoic metamorphic and sedimentary rocks of the Diablo Range.

Rivers and streams emanating from both mountain ranges have deposited various sediments resulting in the build-up of large coalescing alluvial fans along each side of the valley. The larger, and more gently sloping fans on the east belonging to the San Joaquin, Kings, and Kaweah Rivers are built up principally by deposits from granitic rock sources in the Sierra Nevada Range. The smaller and steeply sloping fans on the west formed by the Little Panoche, Panoche, and Cantua Creeks, are built up of materials originating from sedimentary and metamorphic rocks of the Coast Range. As a result, the valley floor consists of two

LOCATION OF BACKFILLED UNLINED DITCH,
PLEASE REFER TO DRAWING No. 3



SITE PLAN
SPAIN AIR, INC.
15723 FOLSOM AVENUE
DOS PALOS, CALIFORNIA

SCALE: 1"=400'	DATE: 6-12-85
DRAWN BY: JP	APPROVED BY: <i>[Signature]</i>
	DRAWING No. 2 OF 4



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FRESNO MODESTO VISALIA BAKERSFIELD

types of alluvial materials that differ widely in provenance and engineering properties.

The central, lowest portion of the valley was often covered by lakes, marshes and stream flood plains during the Pliocene-Pleistocene epoch. Thus, in the central portion of the valley, fine grained lacustrine, paludal, and basin fill deposits of silts, silty sands, and clayey sands and silts are interfingered with the clastic materials being shed from the Sierra Nevada and Coast Ranges.

Six clayey layers, designated "A" through "F", underlie the central part of the valley. These clayey sand and silt layers separate the sedimentary section into a number of confined or semi-confined aquifers. The "A" clay is the youngest and occupies the highest stratigraphic position.

The project site is located on Recent basin fill material between the alluvial fan deposits of Panoche Creek on the west, and stream channel deposits of the San Joaquin River on the east. The site is underlain by deposits of clays, silts, and sands of flood plain, alluvial fan, or stream channel origin.

2.2.2 Hydrology: The hydrologic conditions at the site are largely controlled by the underlying clay layers, the proximity of the San Joaquin River to the east, and the Delta Mendota and other canals to the west.

Depth to first groundwater beneath the project site is estimated to be 5 feet BSG. This information is based on regional maps produced by the California Department of Water Resources for April 1987. The groundwater gradient and direction of flow beneath the site cannot be determined from these regional maps. In general, groundwater will flow away from the San Joaquin River. However, nearby pumping and recharge will have an unknown affect on both gradient and direction of flow of groundwater beneath the project site.

2.3 Site History: The Spain-Air facility, also referred to as the Dos Palos Airport, has been in operation since the early 1930's. The facility has been used for aerial and ground application of pesticides. Mr. Bill Spain purchased the airport facility in 1962. Prior to 1984, rinsewater containing pesticides was directed from a rinse pad into an unlined earthen drainage ditch, which ran east-west along the northern boundary of the facility, located on the northeast corner of the facility. This ditch was backfilled in November 1984, and is no longer in use. A new rinse pad and pesticide containment system was installed in 1985.

Currently, equipment washing is performed in containment areas consisting of concrete slabs, which drain to an underground central sump. The collected rinsewater in the sump is pumped to the above-ground storage containers located within the containment area. Furthermore, the stored rinsewater is applied

to the agricultural area which was previously sprayed with pesticides.

2.4 Problem Statement: The operational practices employed at the Spain-Air facility in Dos Palos involves the on-site handling and storage of specific agricultural chemicals. In 1975, the Central Valley Regional Water Quality Control Board (CVRWQCB) conducted an inspection of the facility. During this inspection, discolored water was noted in an unlined earthen drainage ditch which ran east-west along the northern boundary of the facility. From 1962 through 1982, approximately 600 to 700 gallons of wash water per month was disposed of into this ditch. The analytical results of surface water samples taken from the drainage ditch, on November 15, 1979, by Department of Health Services, revealed the presence of pesticide compounds. The concentration of some of the related constituents exceed their applicable regulatory threshold levels. Therefore, a remedial investigation of the facility has been requested by the CVRWQCB. Mr. Bill Spain, the owner of Spain-Air, Inc., requested a remedial investigation be conducted to assess the potential environmental effects of the drainage ditch on the underlying groundwater. A Remedial Investigation (RI) work plan was prepared by Twining and submitted to CVRWQCB and subsequently approved by their letter dated March 30, 1987.

3.0 PURPOSE AND SCOPE OF INVESTIGATION

The purpose of this investigation was to determine the presence and general extent of selected contaminants in the soils and near-surface groundwater beneath the location of the former unlined drainage ditch located on the Spain-Air, Inc. facility in Dos Palos, California.

A summary of the actions taken during this investigation is outlined as follows:

1. A field investigation was conducted on June 26, 1987. Three soil samples and a groundwater sample were collected and prepared for shipment to our laboratory in Fresno for analysis.
2. Each sample was analyzed in the laboratory for Organophosphate Pesticide, Phenoxycid Herbicide, and Organochlorine Pesticides.
3. The data and information obtained in the field were evaluated to assess the potential environmental effects of past discharge to the unlined ditch.
4. This report was prepared to present our investigative procedures, findings, our evaluation of these findings, and our related conclusions and recommendations.

4.0 INVESTIGATIVE PROCEDURES

This investigation consisted of a field exploration and a laboratory testing program. The details of each of these phases are presented in the following subsections.

4.1 Soil Boring and Sampling Locations: In order to evaluate the possible presence of the constituents related to the past disposal practices, three (3) subsurface soil samples were collected from the area beneath the location of the former

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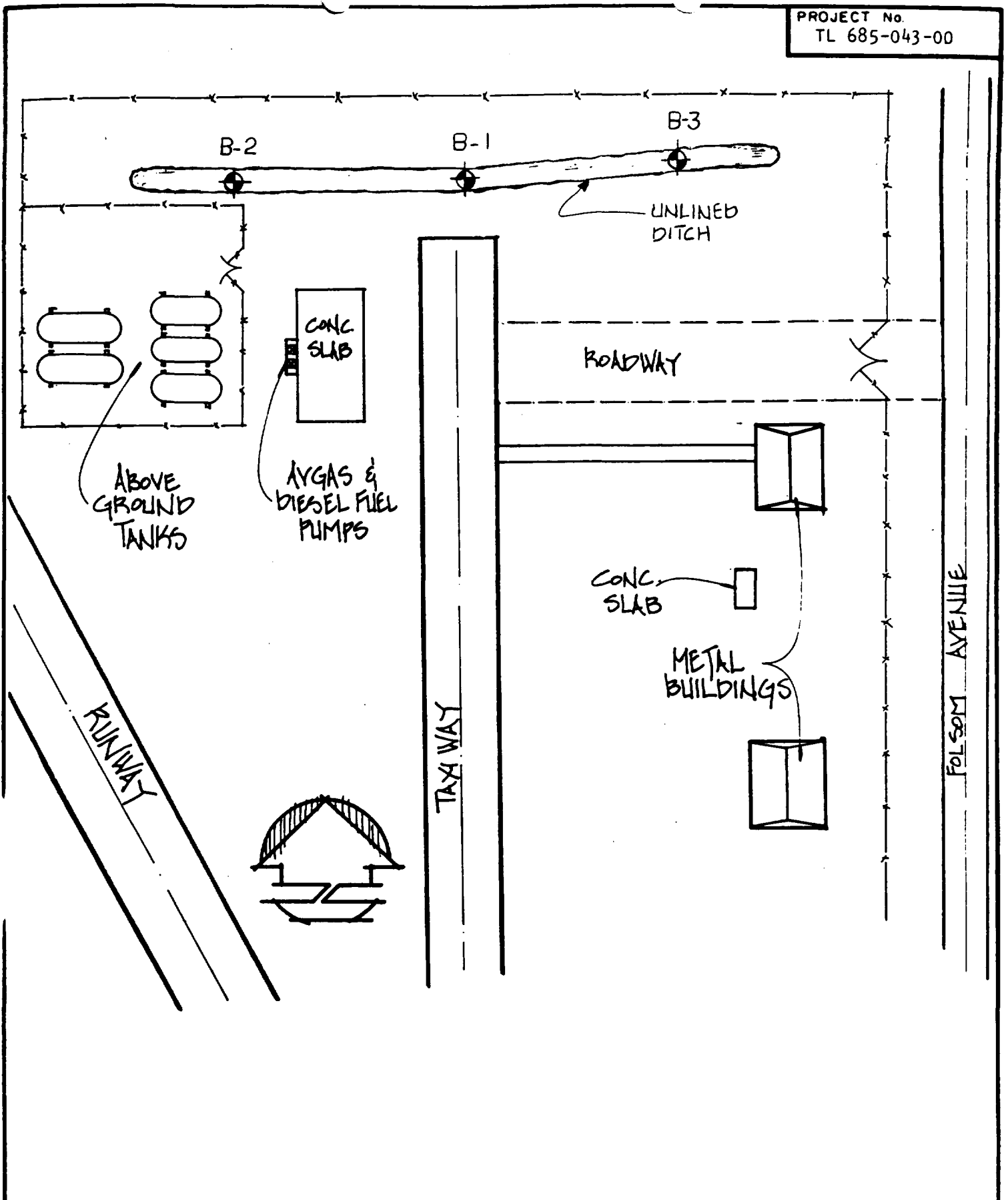
unlined ditch which has been identified as the area of possible soil contamination from the pesticide product handled at the facility. Soil boring B-1 was drilled approximately at the center of the unlined ditch, and soil borings B-2 and B-3 were drilled approximately 50 feet from the west and the east end of the ditch, respectively. The locations of the soil borings are shown on Drawing No. 3.

Soil boring B-1 was drilled to a depth of approximately 10 feet BSG. Soil borings B-2 and B-3 were drilled to a depth of 5 feet BSG, and terminated at that depth. Soil samples from each boring were taken at depth of 4 feet BSG. Vertical cross-sections of the borings and soil sampling locations are illustrated on Drawing No. 4.

4.1.1 Soil Sampling Procedures: The soil borings Nos. B-1, B-2, and B-3 were drilled under the direction of a staff geologist from our firm, on June 26, 1987 using a Mobile B-61 truck-mounted drill rig equipped with 6-5/8 inch diameter hollow stem augers. Soil samples were collected at a depth of 4 feet BSG from each soil boring. The samples were obtained by pushing or driving a thin-walled steel sampler, equipped with two 2-1/2 inch diameter, 6-inch long brass sleeves, a minimum of 12 inches into the soil. The bottom sleeve was retained for laboratory analysis. The ends of the sleeves were covered with aluminum foil, covered with plastic caps, and secured with synthetic tape.

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Fresno



SITE PLAN
SPAIN AIR, INC.
DOS PALOS, CALIFORNIA

SCALE
1"=60'

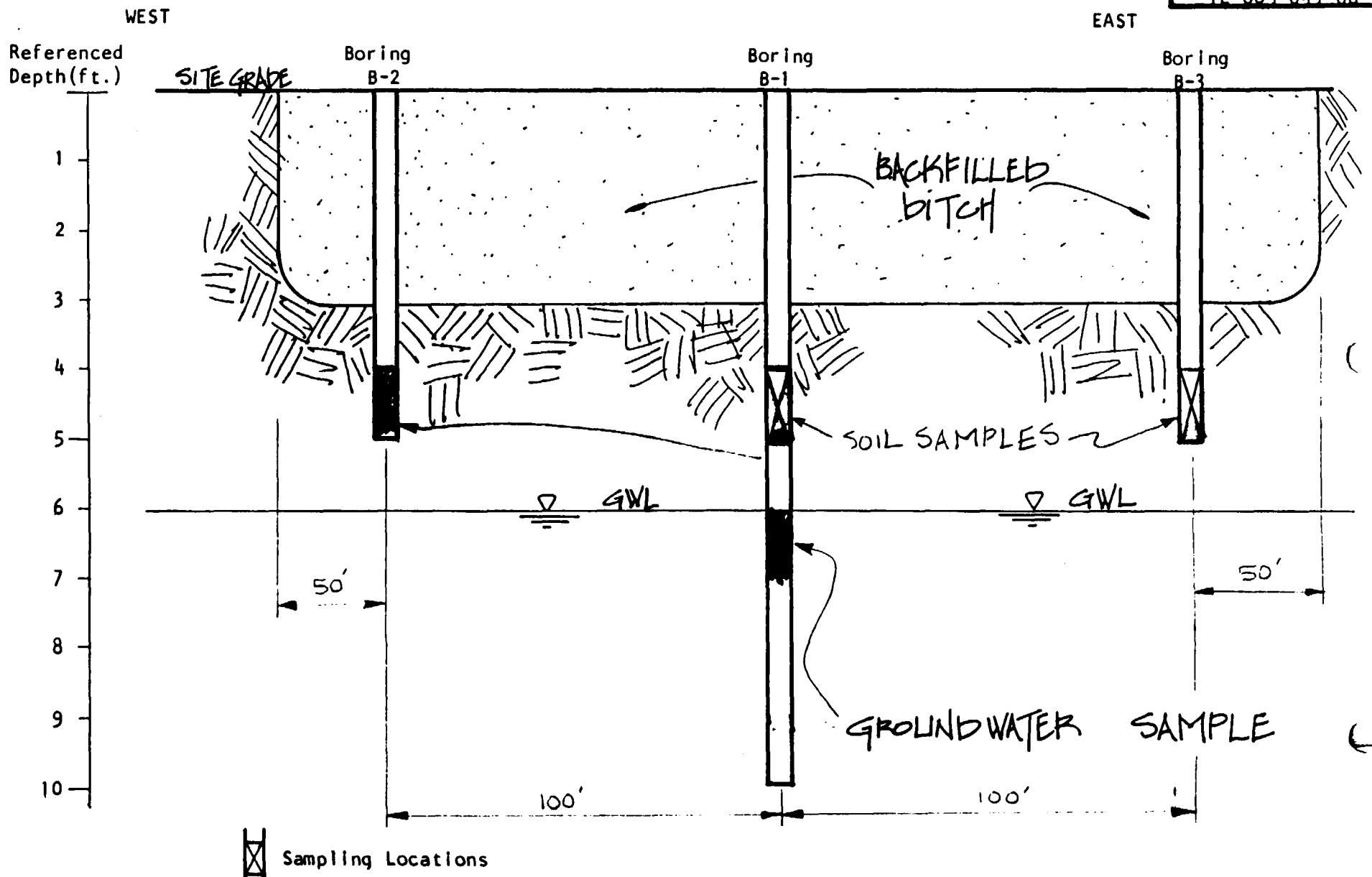
DATE
6-19-89

DRAWN BY
CMV

APPROVED BY
Sand



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Laboratories, Inc.



CROSS SECTION OF BORINGS AND SOIL AND
GROUNDWATER SAMPLE LOCATIONS
SPAIN AIR, INC.
DOS PALOS, CALIFORNIA

SCALE:
AS INDICATED

DATE: 6-19-89

DRAWN BY: CMV

APPROVED BY: *Sat-d*

DRAWING No.
4 of 4



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Continuous logs of the soils encountered in the soil borings were recorded. The field soil classification was in accordance with the Unified Soils Classification System and consisted of particle size, color, and other distinguishing features of the soil. Soil samples were collected by driving a California modified split barrel ring sampler into the soil. The split barrel ring sampler has a 3-1/2 inch O.D. and a 2-1/2 inch I.D. The sampler is driven by a 140 pound weight falling 30 inches. The sampler is lowered to the bottom of the test bore hole and set by driving it an initial 6 inches. It is then driven an additional 12 inches.

Upon completion of the drilling, each boring was backfilled with a sand-cement slurry.

The soil boring locations were determined by measuring wheel with reference to existing site features, as indicated on the site plan, and should be considered accurate to within 5 feet. The elevations of the test borings were not determined at the time of our investigation. The locations of the soil borings is described on the soil boring logs in Appendix A.

4.2 Groundwater Sampling Location: A groundwater sample was obtained for chemical analysis to assist in determining the potential impact on the underlying groundwater quality.

Groundwater bearing strata was encountered at a depth of approximately 6 feet BSG. Due to shallow groundwater conditions, a near-surface groundwater sample was obtained from soil boring B-1 drilled to a depth of 10 feet BSG, located approximately at

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Fresno Modesto Visalia Bakersfield

the center of the unlined ditch, and terminated at that depth. A vertical cross-section of this boring and groundwater sampling location is illustrated on Drawing No. 4.

4.2.1 Groundwater Sampling Procedures: A near-surface groundwater sample was obtained by submerging a pre-cleaned teflon bailer through the hollow-stem auger, into the groundwater collected in the soil boring B-1. The groundwater sample was placed into an appropriate glass container with a teflon-lined lid. This is not a standard procedure for collecting a groundwater sample; however, a sample was collected as per this method to obtain a preliminary indication of the underlying groundwater quality.

4.3 Decontamination Procedures: Prior to each drilling operation, the auger and associated drilling equipment were thoroughly cleaned using a high pressure hot water (steam) washer. The hot water washer had a pressure of 1,000 psi and water temperature of 200°F. In addition, the soil sampler was washed in a Trisodium Phosphate (TPS) solution and rinsed in distilled water and air dried prior to initial use and between each sampling event to preclude the possibility of cross-contamination between samples.

The teflon bailer used for collecting the groundwater sample was cleaned in a TPS solution, rinsed in distilled water and allowed to air dry prior to use.

4.4 Sample Shipment and Chain-of-Custody Procedures:

Records were developed for all samples including: sampling date, sample type, location, and method of preservation. Each sample container was banded and sealed with chain-of-custody seals. All samples were immediately placed on ice at the site and maintained on ice until they were delivered to the laboratory where they were preserved for analysis in accordance with EPA and State of California requirements.

All samples retrieved from the field were brought to Twining's Laboratory in Fresno, California. Chain-of-Custody procedures, described in Test Methods for Evaluating Solid waste, SW-846, U.S. EPA, Third Edition, 1986, and Federal Register, volume VIII, 40 CFR part 136, U.S. EPA, 1984, were followed. Copies of the chain-of-custody documentation associated with the sampling, transport, and analysis of the samples obtained during the investigation are presented in Appendix B.

4.5 Safety Work Plan: Due to the possibility of health hazards associated with exposure to various chemicals, field and laboratory personnel who could possibly come in contact with the samples obtained from the site were issued safety gear. This included the issuance of disposable clothing, disposable rubber gloves, organic vapor masks, rubber boots, safety glasses, and hard hats. The field geologist and laboratory director were responsible for the implementation of the safety work plan.

4.6 Laboratory Investigation: Chemical tests were conducted on the groundwater and soil samples retrieved in the field. Twining is a California Department of Health Services certified laboratory (Certificate No. 146) for the analyses performed. A description of the tests performed during this investigation, and the quality assurance and quality control procedures used are provided in the following subsections.

4.6.1 Chemical Analysis: Analytical tests were performed to determine the presence and concentration of selected contaminants associated with past discharge of pesticide products into the unlined ditch. The analytical methods used for analysis of the samples are outlined in Table I. These methods were those approved by the State of California or the EPA.

Table I
Chemical Characterization : i Methods

<u>Type of Analysis</u>	<u>Analytical Method</u>	
Organophosphate Pesticides	SW-846	Soil: Method 8140
	40-CFR	Water: Method 614
Phenoxyacid Herbicides	SW-846	Soil: Method 8150
	40-CFR	Water: Method 615
Organochlorine Pesticides	SW-846	Soil: Method 8080
	40-CFR	Water: Method 608

Note:

SW-846: Test Methods for Evaluating Solid Waste, U.S. EPA, Office of Solid Waste and Emergency Response, 1986, 3rd Edition.

40-CFR: Federal Register, U.S. EPA, October 1984, volume-VIII, part 136.

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4.6.1.1 Quality Assurance/Quality Control (QA/QC)

Procedures: The QA/QC procedures followed for this investigation were developed to minimize outside interference during the analysis for each sample for this project. The Twining laboratory director was in charge of creating and maintaining the QA/QC program. Specific QA/QC procedures developed for this investigation are summarized as follows:

Organic Analyses

- o Method blanks were run to insure that the glassware and reagents were free of interference from chemicals that would invalidate analyses;
- o Standards were prepared using the highest purity reference material available;
- o Duplicates of the samples were analyzed to monitor the precision of the method; and
- o Duplicates of the samples were fortified to validate the accuracy of the method.

Twining maintains a service contract on all major instrumentation; gas chromatographs, atomic absorption, chromatograph and total organic carbon analyzers. All instruments have been and will be serviced on a regular basis to ensure their accurate calibration.

5.0 RESULTS AND FINDINGS

The results of the field exploration and laboratory investigation are summarized in the following subsections.

5.1 Soil Profile: The soil profile at the site consisted of interbedded sandy silts and sandy clays to a depth of approximately 10 feet BSG, the maximum depth explored. Natural moisture content remained at moist conditions from the surface to the depth groundwater was encountered.

The foregoing is a general summary of the subsurface conditions encountered in the boring drilled for this study. Detail descriptions of the conditions encountered in the boring are presented on the log of boring in Appendix A. The stratification lines on the log represent the approximate boundary between soil types; the actual in-situ transition may be gradual.

5.2 Groundwater Conditions: Groundwater was encountered at a depth of about 6 feet BSG in the soil boring B-1 drilled at the time of our field exploration.

The groundwater gradient and direction of flow beneath the site cannot be determined from the regional maps produced by the California Department of Water Resources regional maps for April 1987. In general, groundwater will flow away from the San Joaquin River. However, numerous factors influence groundwater level fluctuations and flow direction, and evaluation of such factors is beyond the scope of this investigation.

5.3 Analytical Results of Soil Sample Analyses: The analytical results of the three soil samples collected during this investigation are presented in Tables II, III and IV. The laboratory documentation is provided in Appendix C.

Table II

Analytical Results of Soil Sample Analyses

Organophosphate Pesticide

COMPOUND	Concentration, mg/kg					
	<i>Center</i> Soil Sample B-1 MDL		Soil Sample B-2 MDL		Soil Sample B-3 MDL	
Azodrin	ND	5.0	ND	5.0	ND	5.0
Bidrin	ND	5.0	ND	5.0	ND	5.0
DEF	31	1.0	1.0	1.0	180 ✓	1.0
Ethion	✓ 16	1.0	1.2	1.0	61 ✓	1.0
Folex	ND	1.0	ND	1.0	ND	1.0
Guthion	ND	1.0	ND	1.0	ND	1.0
Malathion	ND	1.0	ND	1.0	ND	1.0
Methyl Parathion	ND	1.0	ND	1.0	ND	1.0
Parathion	ND	1.0	ND	1.0	7.4 ✓	1.0
Phosdrin	ND	1.0	ND	1.0	ND	1.0
Systox	ND	1.0	ND	1.0	ND	1.0
Thimet	ND	1.0	ND	1.0	ND	1.0
Trithion	ND	1.0	ND	1.0	6.1 ✓	1.0

MDL = Method Detection Limit
ND = None Detected Above MDL
mg/kg = Milligrams per kilogram

Table III

Analytical Results of Soil Sample Analyses

Phenoxyacid Herbicides

COMPOUND	Concentration, mg/kg					
	<i>Center</i> Soil Sample B-1 MDL		Soil Sample B-2 MDL		Soil Sample B-3 MDL	
2,4-D	ND	0.2	ND	0.2	ND	0.2
Dinitro	ND	1.0	ND	1.0	1.3 ✓	1.0
Paraquat	ND	1.0	ND	1.0	4.0 ✓	1.0
Treflan	ND	0.1	ND	0.1	ND	25

MDL = Method Detection Limit
ND = None Detected Above MDL
mg/kg = Milligrams per kilogram

The Twining Laboratories, Inc.

Fresno Modesto Visalia Bakersfield

Table IVAnalytical Results of Soil Sample AnalysesOrganochlorine Pesticides

COMPOUND	Concentration, mg/kg					
	<i>Center</i> Soil Sample		Soil Sample		Soil Sample	
	B-1	MDL	B-2	MDL	B-3	MDL
Aldrin	ND	1.0	ND	0.5	ND	100
BHC	ND	10	ND	0.5	ND	100
Chlordane	ND	100	ND	10	ND	250
DBCP	ND	0.1	ND	0.1	ND	0.1
DDD	ND	10	ND	0.5	ND	100
DDE	14 ✓	10	ND	0.5	ND	100
o,p-DDT	65 ✓	10	4.9 ✓	0.5	440 ✓	100
p,p-DDT	ND	10	2.8 ✓	0.5	870 ✓	100
Dieldrin	ND	1.0	ND	0.1	ND	2.0
Endosulfan I	ND	1.0	ND	0.1	ND	2.0
Endosulfan II	3.0 ✓	1.0	ND	0.1	8.9	2.0
Endrin	ND	1.0	ND	0.1	ND	2.0
Heptachlor	ND	10	ND	0.5	ND	100
Kelthane	ND	50	ND	5.0	ND	1000
Methoxychlor	ND	10	ND	0.5	ND	100
Toxaphene	430 ✓	10	15 ✓	1.0	1300 ✓	25

MDL = Method Detection Limit
 ND = None Detected Above MDL
 mg/kg = Milligrams per kilogram

*1.50
mg. Dieldrin 5.00*

The Twining Laboratories, Inc.

Fresno Modesto Visalia Bakersfield

5.4 Analytical Results of Groundwater Sample Analyses: The analytical results of the groundwater sample collected during this investigation are presented in Tables V, VI and VII. The laboratory documentation is provided in Appendix C.

Table V

Analytical Results of Groundwater Sample Analyses
Organophosphate Pesticides

COMPOUND	Concentration, ug/l	
	Groundwater Sample MW-1	MDL
Azodrin	ND	100
Bidrin	ND	100
DEF	270 ✓	20
Ethion	24 ✓	20
Folex	ND	20
Guthion	ND	100
Malathion	ND	20
Methyl Parathion	ND	20
Parathion	ND	20
Phosdrin	ND	50
Systox	ND	50
Thimet	ND	20
Trithion	ND	20

MDL = Method Detection Limit
 ND = None Detected Above MDL
 ug/l = Micrograms per liter

Table VI

Analytical Results of Groundwater Sample Analyses

Phenoxyacid Herbicides

COMPOUND	Concentration, ug/l	
	Groundwater Sample MW-1	MDL
2,4-D	ND	20
Dinitro	1200	20
Paraquat	ND	50
Treflan	ND	25

MDL = Method Detection Limit
ND = None Detected Above MDL
ug/l = Micrograms per liter

Table VII
Analytical Results of Groundwater Sample Analyses
Organochlorine Pesticides

COMPOUND	Concentration, ug/l	
	Groundwater Sample MW-1	MDL
Aldrin	ND	20
BHC	ND	20
Chlordane	ND	100
DBCP	ND	0.1
DDD	ND	20
DDE	ND	20
o,p-DDT	160	20
p,p-DDT	54	20
Dieldrin	ND	10
Endosulfan I	ND	10
Endosulfan II	22✓	10
Endrin	ND	10
Heptachlor	ND	20
Kelthane	ND	500
Methoxychlor	ND	20
Toxaphene	690✓	50

MDL = Method Detection Limit
ND = None Detected Above MDL
ug/l = Micrograms per liter

6.0 EVALUATION

The results of the laboratory analyses of soil and water samples were evaluated to determine the general extent of soil contamination beneath the former location of the unlined ditch. In addition, the data obtained were evaluated to assess the potential environmental effects related to the chemicals that

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APPENDIX D

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Bechtel Environmental, Inc.
P.O. Box 193965
San Francisco, CA 94119-3965

OBSERVATIONS MADE BY: Subbu Mahadevan

DATE: February 10, 1994

FACILITY REPRESENTATIVE(S) and TITLE(S):

Bill Spain, Spain-Air Pesticide Applicators
Randy Spain, Spain-Air Pesticide Applicators
Harry Moore, The Twining Laboratories, Inc.
Michael Delmanowski, The Twining Laboratories, Inc.

SITE: Dos Palos Arpt. (a.k.a. Spain-Air Pesticide Applicators)

EPA ID: CAD 980736953

A site reconnaissance was conducted at the Dos Palos Arpt. (Dos Palos Airport) site on February 10, 1994. The weather was sunny and the temperature was approximately 60°F. The Bechtel Environmental, Inc. (BEI) representative, Subbu Mahadevan, conducted the site reconnaissance with Bill Spain, Randy Spain, Harry Moore, and Michael Delmanowski at 1:00 p.m. to gather information on the site location and size, site history, processes used, and any hazardous waste generated, treated, stored, or disposed of on site. The reconnaissance included a site tour during which photographs were taken.

The following information was obtained during the site reconnaissance:

The Dos Palos Airport site is approximately 2 miles south of the city of Dos Palos, Fresno County, Calif. The site is bordered on the north by Shain Avenue, on the south and west by open fields, and on the east by Folsom Avenue. The site has been occupied by an aerial and ground pesticide application business since 1940. Bill Spain purchased the site in 1962 and has operated Spain-Air Pesticide Applicators on site since that time.

The Dos Palos Airport site is approximately 40 acres in area. A runway divides the site into two halves. The portion east of the runway includes an office, warehouses for storage of pesticides and aircraft parts, two hangers, and a rinsewater containment station. The portion west of the runway includes a fuel dispensing facility and a trailer that is a residence for two people. The site is only fenced on the northern side.

Onsite operations consist of loading planes with pesticide solution, and rinsing and washing planes, equipment, and containers of pesticide solution. Prior to 1984, rinsewater from plane and container washings was directed into an unlined trench near the site's northern boundary. Currently, rinsing and washing operations are conducted on a concrete pad in the rinsewater containment station. After an aerial pesticide application, the planes are rinsed to remove pesticide solution that may have accumulated on their exteriors during operation. Rinsewater from aircraft

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT (Cont'd)

Site: Dos Palos Airport

washings flows into a drain in the corner of the concrete pad and into an underground steel-lined sump. The rinsewater is pumped from the sump through a filtered system and into three poly-plastic aboveground storage tanks. Rinsewater from these storage tanks is then reapplied to crops. Empty pesticide containers are triple rinsed on the concrete pad and stored in the warehouse before being hauled to the Merced County Landfill for disposal.

Up to 1,500 gallons of filtered rinsewater is stored on site before being reused for pesticide application. The fuel dispensing facility has two 3,000-gallon aboveground storage tanks containing diesel fuel and two 10,000-gallon aboveground storage tanks containing aviation fuel.

The California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB), Central Valley Region, has been involved with the site since 1979. In April 1985, the RWQCB requested a workplan from the site owners to determine soil and groundwater contamination in the vicinity of the former drainage trench. The workplan was submitted by the site owners in August 1985 and approved by the RWQCB in March 1987. In accordance with the workplan, a soil sampling event was conducted in the vicinity of the drainage trench in June 1987. In July 1991, the RWQCB requested a workplan from the site owners to further characterize groundwater contamination beneath the site due to pesticide contamination in onsite soils. In May 1992, the RWQCB requested another workplan to characterize the extent of soil and groundwater contamination on site due to a diesel fuel spill. Both workplans were submitted by Twining Laboratories, Inc. and approved by the RWQCB in January 1993. In April 1993, Twining Laboratories, Inc. conducted a site assessment that addressed both the pesticide and diesel contamination in onsite soil and groundwater at the site. The RWQCB is in the process of reviewing the documentation on the April 1993 sampling event.



REPORT OF PRELIMINARY SITE ASSESSMENT

SPAIN-AIR, INC. FACILITY

DOS PALOS, CALIFORNIA

Prepared for:

**Spain-Air, Inc.
P.O. Box 217
Dos Palos, California 93620**

Prepared by:

**The Twining Laboratories, Inc.
2527 Fresno Street
Fresno, California 93721**

July 26, 1993

TL 392-0078-01A

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Bakersfield, CA 93308
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REPORT OF PRELIMINARY SITE CHARACTERIZATION

SPAIN-AIR, INC. FACILITY

DOS PALOS, CALIFORNIA

1.0 INTRODUCTION

This report presents results of a preliminary site characterization conducted by the Environmental Services and Analytical Chemistry Divisions of The Twining Laboratories, Inc. (Twining), located in Fresno, California. Twining's general work scope was described in our August 8, 1991 "Workplan for Preliminary Groundwater Characterization, Spain-Air Facility" (TL 685-043-02), and our July 20, 1992 "Work Plan for Preliminary Site Characterization, Spain-Air Facility, Inc." (TL 392-0078-01). The work plans were prepared in response to July 31, 1991 and May 8, 1992 memorandums from the Regional Water Quality Control Board, Central Valley Region (RWQCB). Preparation of the work plans was authorized by Mr. William Spain, President and owner of Spain-Air, Inc. (Spain Air) by an executed contract dated February 2, 1993 (contract No. C-193-0024).

2.0 PURPOSE AND SCOPE

Twining performed this investigation to preliminarily assess the presence and extent of pesticides, herbicides, and diesel in soil and groundwater in the vicinity of a fuel dispensing facility and a former unlined earthen drainage ditch (drainage ditch) at the site. Our work scope consisted of:

- Hand-augering and sampling six soil borings near three aboveground fuel storage tanks (AFSTs) located within the fuel dispensing facility;
- Drilling, sampling, and lithologically logging eight soil borings around the perimeter of the fuel dispensing facility, and two soil borings north of the former drainage ditch;
- Screening soil samples in the field for evidence of volatile organic chemicals (VOCs), using a photoionization detector (PID);
- Collecting groundwater "grab" samples from three of the hand-augered borings and three of the drilled soil borings;

- Installing, developing, and sampling monitoring wells in three of the drilled soil borings;
- Collecting depth to groundwater data to evaluate direction of groundwater flow and gradient; and
- Analyzing selected soil and/or groundwater samples for total petroleum hydrocarbons - diesel (TPH-D), organochlorine (OC1) and organophosphate (OP) pesticides, chlorophenoxyacid (CPA) herbicides, total dissolved solids (TDS), and electrical conductivity (EC).

3.0 BACKGROUND

Spain-Air, located at 15723 Folsom Avenue in Dos Palos, California, is a crop-dusting facility that has been in operation since the 1930's (Drawing 1). Operations at the facility include handling, transferring, and storage of agricultural chemicals. Mr. Spain purchased the facility in 1962. Until 1984, rinsewater containing pesticides was directed from a rinse pad into the drainage ditch located on the northern boundary of the facility (Drawing 2). The drainage ditch was backfilled in November, 1984. A new rinse pad and rinsewater containment structure were constructed in 1985.

In 1979, the California Department of Health Services collected a water sample from the drainage ditch. Pesticides were detected in the sample, prompting the RWQCB to request a remedial investigation of site soils and groundwater.

In June 1987, Twining performed a preliminary investigation of soils beneath the drainage ditch ("Preliminary Remedial Investigation, Spain-Air, Inc. Facility", TL 685-043-01, August 31, 1989). Soil samples and a groundwater "grab" sample were collected and chemically analyzed for OC1 and OP pesticides, and CPA herbicides. The following compounds were detected in the soil samples:

- OC1 pesticides - DDE, DDT metabolites, Endosulfan II, and toxaphene;
- OP pesticides - DEF, Ethion, Parathion, and Trithion; and
- CPA herbicides - Dinitro and Paraquat.

DEF, Ethion, DDT metabolites, and toxaphene were detected at the greatest concentrations in the soil samples.

The following compounds were detected in the groundwater "grab" sample:

- OCl pesticides - DDT metabolites, Endosulfan II, and toxaphene.
- OP pesticides - DEF and Ethion; and
- CPA herbicides - Dinitro.

DEF, Dinitro, and toxaphene were detected at the greatest concentrations in the groundwater sample.

On the basis of the preliminary investigation results, the RWQCB requested that the extent of herbicide- and pesticide-impacted soil and groundwater be assessed. Twining's work plan was submitted on August 8, 1991.

In April 1992, the RWQCB and the Fresno County Environmental Health Department (FCEHD) inspected the site following issuance of a spill report. During the inspection, a leak was observed in a diesel vent line at the fuel dispensing facility. The fuel dispensing facility is located in the northeast corner of the property, and approximately 50 feet south of the former drainage ditch. Spain-Air reportedly had discovered the leak in March, 1992, and had begun excavating impacted soil. Floating diesel product was observed on groundwater, in trenches dug in the base of the excavation. As an interim remedial measure, and with the consent of the RWQCB, groundwater was periodically pumped from the trenches to remove floating diesel product.

On May 8, 1992, the RWQCB requested that Spain-Air assess the extent of soil and groundwater impacted by diesel. Twining's work plan was submitted on July 20, 1992. The work plan was developed to address two issues: assess the extent and magnitude of diesel impact; and evaluate the general quality of shallow groundwater beneath the site with respect to potential beneficial uses. The latter issue is pertinent to site remedial planning, because shallow groundwater in the area is highly saline, and may be of limited usefulness.

To expedite the assessment activities, the most recent assessment phase consisted of implementing both the August 8, 1991 and the July 20, 1992 work plans simultaneously. Thus, our investigation addressed both the diesel impact and the herbicide-pesticide impact to soil and groundwater. Approval to combine the investigations was verbally authorized by Ms. Roberta Howe of the RWQCB on March

17, 1993 (personal communication with Mr. Mike Delmanowski of Twining).

The following sections present Twining's investigation procedures and the results.

4.0 INVESTIGATION PROCEDURES

Twining's field and laboratory activities were performed in general accordance with our Standard Operating Procedures (SOPs). Our SOPs are presented in Appendix A.

4.1 Field Investigation:

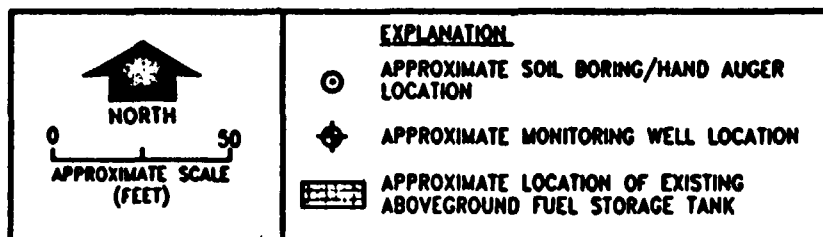
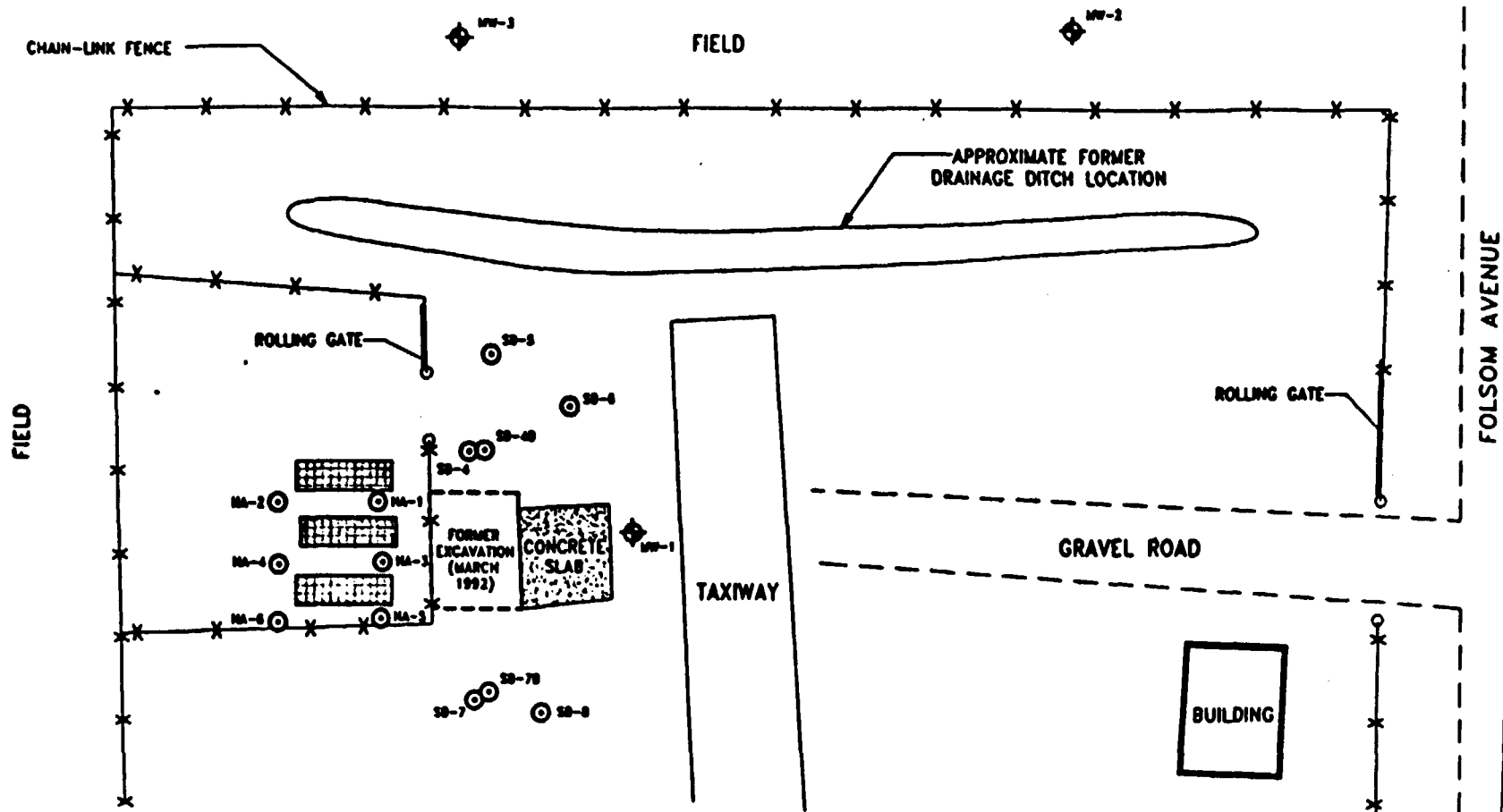
4.1.1 Soil Borings and Monitoring Wells: Twining drilled and sampled soil borings (SB-4 through SB-8 and MW-1) at six locations around the perimeter of the fuel dispensing facility, and two soil borings (MW-2 and MW-3) north of the former drainage ditch. Additionally, six soil borings (HA-1 through HA-6) were hand-augered near three AFSTs located within the fuel dispensing facility (Drawing 3).

The locations of the soil borings were selected to:

- assess soils and groundwater for diesel and herbicide-pesticide impact in the vicinities of the fueling dispensing facility and the former drainage ditch; and
- provide suitable locations for installing three monitoring wells to assess groundwater flow direction and gradient.

During Twining's preliminary site visit of the fuel dispensing facility in April 1992, Twining observed that soil heavily impacted with diesel was visually recognizable in the field because of discoloration. For this reason, we developed an assessment approach which allowed us to select boring and soil sampling locations on the basis of visual observations, as the field investigation progressed. Thus, if discolored soil was encountered during drilling, the boring was abandoned and an additional boring was drilled at a location further from the diesel source. The rationale for our sample collection and analyses plan was also based, in part, on the presence or absence of visual evidence of diesel in soil and groundwater.

Each of the soil borings, except those intended for monitoring wells, was hand-augered or drilled to a depth of 2.5 to 8 feet. Groundwater was encountered at depths of 4 to 6 feet. The three borings intended for monitoring wells (MW-1, MW-2, and MW-3) were



SOIL BORING AND MONITORING WELL
LOCATIONS
SPAIN-AIR, INC.
DOS PALOS, CALIFORNIA

DISK NO.:
50 SPAINA12
DRAWN BY:
KMB
PROJECT NO
392-0078-01A

DATE:
6/29/93
APPROVED BY:
[Signature]
DRAWING NO.
3

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EST. 1898 **TWINING**
LABORATORIES, INC.

- FRESNO
- MODESTO
- VISALIA
- BAKERSFIELD

drilled to a depth of approximately 14.5 feet, about 10 feet below first-encountered groundwater. Soil boring logs and monitoring well construction schematics are presented in Appendices B and C, respectively.

4.1.2 Sampling: Twining collected soil samples from 1 to 2 feet above first-encountered groundwater. Additionally, groundwater "grab" samples were collected from several of the soil borings. The soil samples were examined for visual evidence of petroleum hydrocarbons and for preparing lithologic logs, and were screened for evidence of VOCs, using a PID. Screening results were recorded on the soil boring logs (Appendix B).

Soil and groundwater "grab" samples from selected soil borings were submitted for laboratory analyses. Visual evidence of diesel was apparent in most of the site borings. For this reason, the basis for selection of samples for laboratory analysis was to obtain general information about the concentration and distribution of TPH-D in the soil and groundwater.

The monitoring wells were developed and sampled consistent with the SOPs outlined in Appendix A. Please note that the TPH-D and pesticide/herbicide sample containers for MW-3 were inadvertently damaged during transport following the April 29, 1993 sampling event. Thus, an additional groundwater sample was collected from MW-3 on May 11, 1993.

4.2 Laboratory Analyses: Selected soil and/or groundwater samples were analyzed for:

- TPH-D using United States Environmental Protection Agency (U.S. EPA) Methods 3540 (soil) and 3510 (water), and gas chromatography with flame ionization detection (GC/FID);
- OCl pesticides using U.S. EPA Methods 8080 (soil) and 608 (water);
- OP pesticides using U.S. EPA Methods 8140 (soil) and 608 (water);
- CPA herbicides using U.S. EPA Methods 8150 (soil) and 615 (water);
- TDS using American Public Health Association Method SM209B (water); and
- EC using U.S. EPA Method 120.1 (water).

Twining is certified by the California Department of Health Services to perform these analyses (Certificate No. 1371).

5.0 RESULTS

5.1 Soil Profile: As shown on the boring logs in Appendix B, soils encountered on Spain-Air's property consisted of high-plastic clays to depths of 8 to 10 feet, underlain by interbedded sand and silt, or sand and clay, to the maximum depth explored, 14.5 feet. In contrast, silty sands and clayey silts are prevalent in the upper 10 feet of soil in the soil borings drilled on the north-adjacent property (MW-2 and MW-3).

5.2 Groundwater Conditions: Groundwater was encountered at depths of 4 to 6 feet. Groundwater elevation data based on measurements conducted on April 29, 1993 are summarized in Table 1.

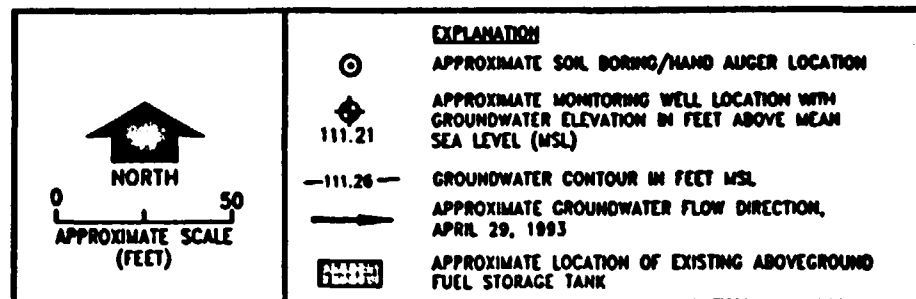
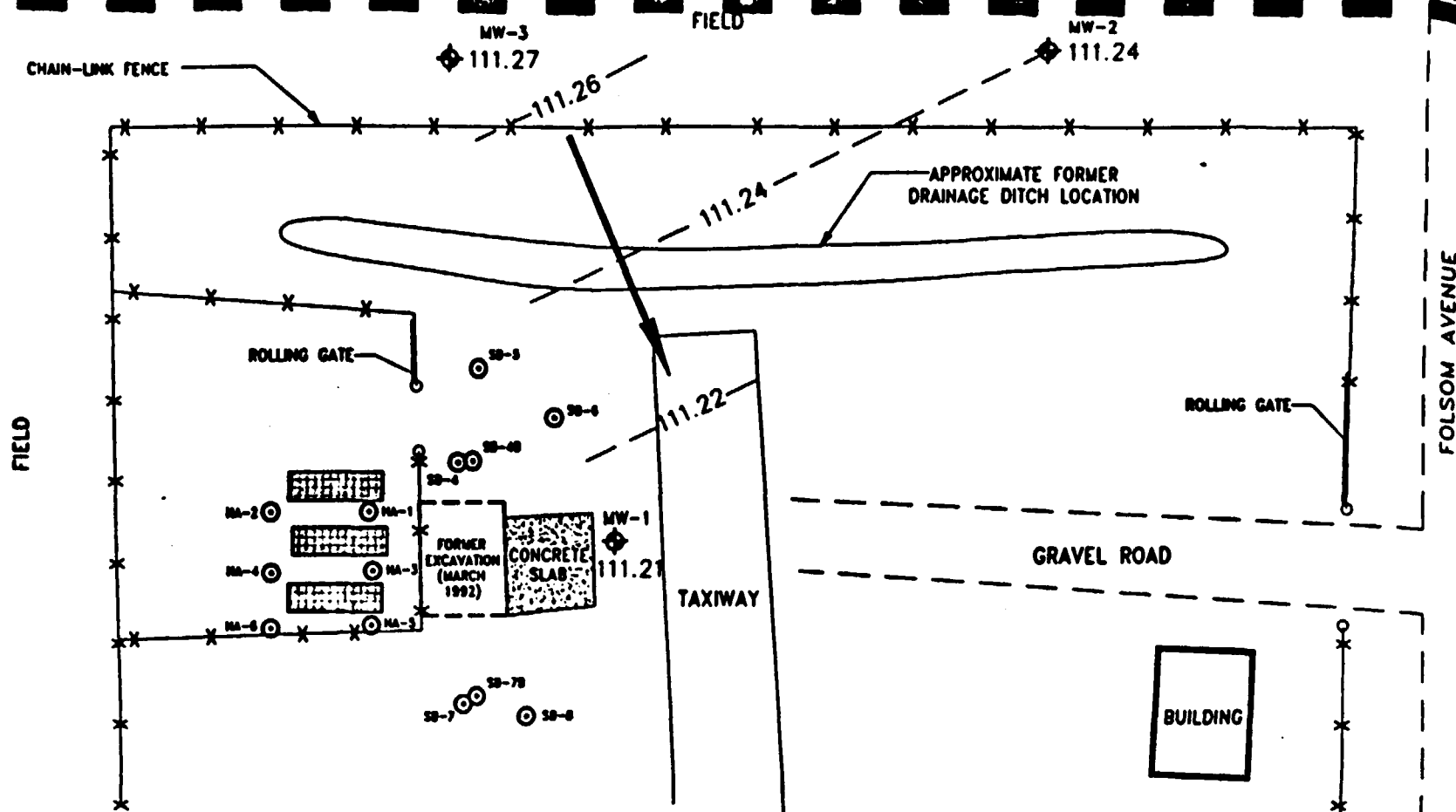
TABLE 1
GROUNDWATER ELEVATION DATA
APRIL 29, 1993

Monitoring Well Number	Top-of-Casing Elevation (feet, MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet, MSL)
MW-1	114.61	3.20	111.21
MW-2	115.87	4.63	111.24
MW-3	115.67	4.40	111.27

MSL = mean sea level

1 Based on: Bench Mark MC 103 1/2; March 1962 USC&GS Stamping U 676 1943; Elevation = 119.271 feet USC&GS Datum.

Based on the information outlined in Table 1, the direction of groundwater flow on April 29, 1993 was approximately south 25° east with a hydraulic gradient of 0.0004. Drawing 4 is a groundwater contour map illustrating the direction of groundwater flow on April 29, 1993.



GROUNDWATER CONTOUR MAP
 APRIL 29, 1993
 SPAIN-AIR, INC.
 DOS PALOS, CALIFORNIA

DISK NO.:
 50 SPAINA12
 DRAWN BY:
 KMB
 PROJECT NO.
 392-0078-01A

DATE:
 6/29/93
 APPROVED BY:

 DRAWING NO.
 4

• FRESNO
 • MODESTO
 • VISALIA
 • BAKERSFIELD

5.3 Laboratory Analytical Results:

5.3.1 Pesticide and Herbicide Analytical Results: The pesticide and herbicide analytical results for soil and groundwater are summarized in Tables 2 and 3. Laboratory analytical reports and chain-of-custody documents are presented in Appendix D.

TABLE 2
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
PESTICIDES AND HERBICIDES

Dates Sampled: April 22 and 23, 1993

TYPE OF ANALYSIS	SAMPLE DEPTH, FEET	MJ-1 (007) (mg/kg)	MJ-2 (010) (mg/kg)	MJ-3 (012) (mg/kg)	MDL ¹ (mg/kg)
Chlorophenoxyacid Herbicides ²	2.5-3.0	ND	ND	ND	0.2-50
Organochlorine Pesticides ² Endosulfan I Endosulfan II	2.5-3.0	0.6 7.2	ND	ND	0.01-2 0.1 0.1
Organophosphate Pesticides Ethion	2.5-3.0	6.8	ND	ND	0.5-5 0.5

mg/kg = milligrams per kilogram
(007) = Sample Identification Number
MDL = method detection limit

1 See laboratory analysis report in Appendix D for individual MDLs.

2 The analysis for this class of herbicides/pesticides encompasses a variety of individual compounds. The "ND" designation indicates that no herbicide/pesticide compounds included in the analysis were detected at or above their corresponding MDLs.

TABLE 3

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

PESTICIDES AND HERBICIDES

Dates Sampled: April 23 and 29, 1993
May 11, 1993

TYPE OF ANALYSIS	SB-7B (016) (ug/L)	SB-4B (017) (ug/L)	MJ-1 (034) (ug/L)	MJ-2 (035) (ug/L)	MJ-3 (037) (ug/L)	MDL (ug/L)
Chlorophenoxyacid Herbicides ² 2,4-DB Dinoseb	ND	ND	ND	9.1 ND	ND 33	0.4-200 2.0 5
Organochlorine Pesticides ²	ND	ND	ND	ND	ND	0.05-1.0
Organophosphate Pesticides ²	ND	ND	ND	ND	ND	2.0-5.0

ND = not detected at or above the corresponding MDLs.

MDL = method detection limit

ug/L = micrograms per liter

(016) = Sample Identification Number

1 See laboratory analysis report in Appendix D for individual MDLs.

2 The analysis for this class of herbicides/pesticides encompasses a variety of individual compounds. The "ND" designation indicates that no herbicide/pesticide compounds included in the analysis were detected at or above their corresponding MDLs.

5.3.2 Total Petroleum Hydrocarbons - Diesel (TPH-D) Analytical Results: The TPH-D analytical results for soil and groundwater are summarized in Tables 4 and 5. Laboratory analytical reports and chain-of-custody documents are presented in Appendix D.